

# Box Butte Reservoir

## 2010 Fall Survey Summary

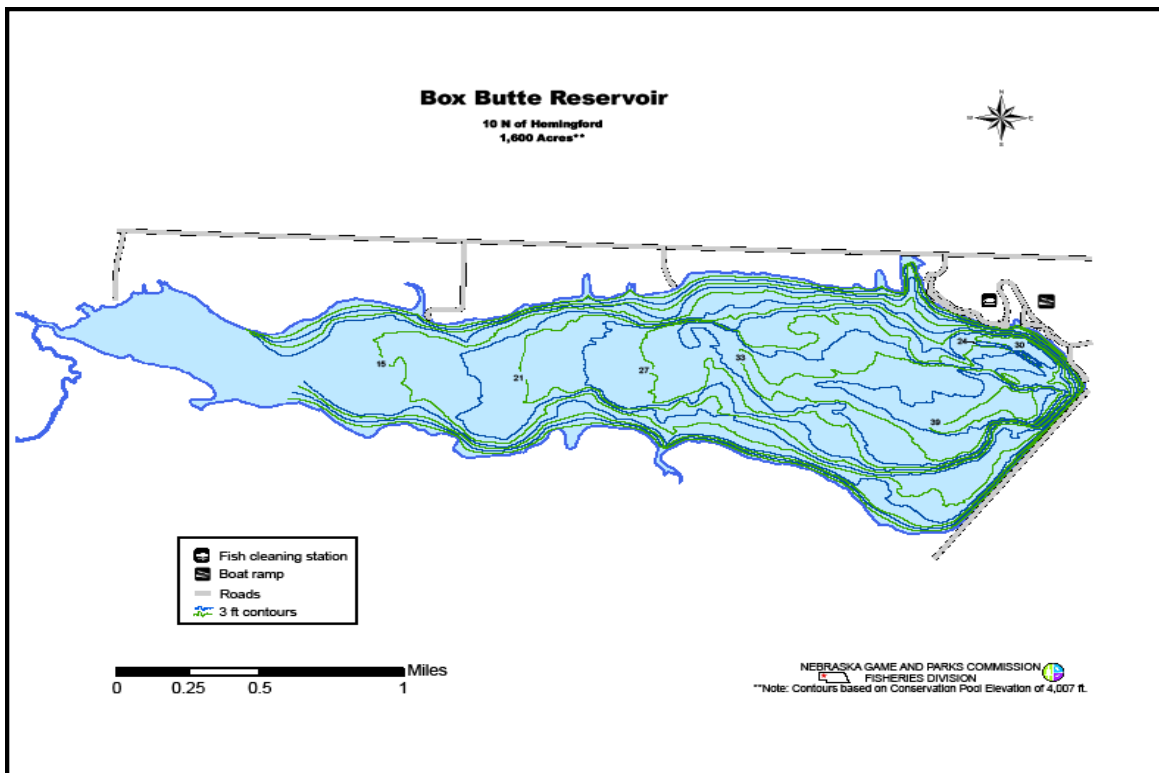


Zac Brashears Fisheries Biologist

Box Butte Reservoir is located approximately 9 miles north of Hemingford on the western edge of the sandhills in the Nebraska panhandle. The reservoir was constructed in the early 1940's and impounds the Niobrara River which originates about 60 miles upstream. Box Butte Reservoir was designed for irrigation, flood control, and recreation.

Box Butte Reservoir is owned by the Bureau of Reclamation and encompasses 2,212 acres while the reservoir itself impounds approximately 1,600 of those acres. A state recreation area encompasses the eastern end of the reservoir and a wildlife management area can be found at the western end of the reservoir. These areas are managed by the Nebraska Game and Parks Commission. The area offers electrical and primitive camping, water, boat ramp (located on the north side), fish cleaning station, swimming, picnic tables and shelters, and primitive restrooms.

Game fish species present in Box Butte Reservoir include: walleye, northern pike, channel catfish, blue catfish, yellow perch, bluegill, black crappie, rock bass, largemouth bass, smallmouth bass, and pumpkinseeds. It is an excellent open water fishery as well as a top ice fishing destination for pike, bluegill, and yellow perch. Box Butte is also known for its water clarity, making it a top destination for bow fishing, underwater spear fishing, and surface spear action. The surface spearing record for common carp came from Box Butte in 2010 and weighed 23 pounds 8 ounces. The European rudd hook and line state record was also caught at Box Butte in 2010 and weighed 2 pounds 12 ounces. Box Butte Reservoir holds 15 state records in the above categories.

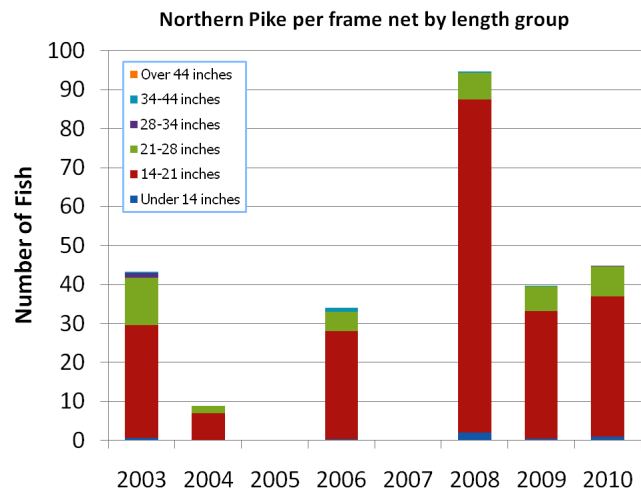


The following text and graphs are the result of netting surveys completed during the spring and fall of 2010 at Box Butte Reservoir. For comparative purposes the results from previous years are also shown. Fish populations are sampled each year at Box Butte using gill nets and frame nets. Gill nets are used to sample fish species found primarily in open water such as walleye and channel catfish; while frame nets are used to sample shoreline-oriented species such as bluegill and spawning northern pike. The nets are set each year at approximately the same locations and dates as previous years to allow for trend comparisons.

## Northern Pike

Northern pike sampling is conducted in mid-to late-March or when the ice comes off, whichever comes first at Box Butte Reservoir. The sampling gear consists of frame nets that are set perpendicular to shoreline to intercept pike as they move into vegetated areas to spawn.

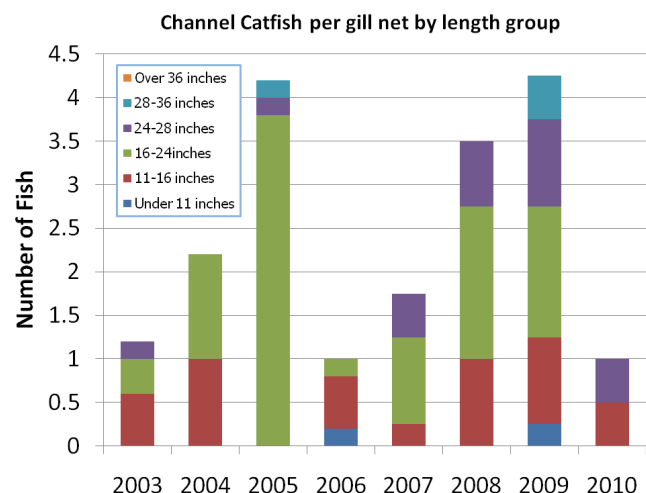
In 2008, fish managers placed a special regulation for northern pike at Box Butte. The regulation that was implemented was a protected slot length limit of 28-34 inches and an increased bag limit of 10 fish (only one fish larger than 34 inches). This new regulation was implemented in an attempt to increase size structure of pike in the reservoir and produce a better quality pike fishery. The northern pike trap net catch in 2010 was 44.75 fish per net and very similar to the long-term average for the lake of 44 fish per net. Only 17% of the pike sampled were larger than 21 inches and no fish were sampled larger than 34 inches. We will continue to monitor and evaluate this regulation in the next few years to see if management objectives can be met.



## Channel Catfish

The channel catfish gill net catch in 2010 was 1 fish per net which was less than the 2003-2009 average of 2.6 fish per net. Although low numbers of catfish were sampled, the average size of channel catfish that was sampled was 16 inches. The largest fish sampled was 28 inches; there are some trophy channel catfish in Box Butte.

Box Butte receives an annual September stocking of 1600 fish that are approximately 9-10 inches in length. This is a stocking rate of 1 fish per acre.

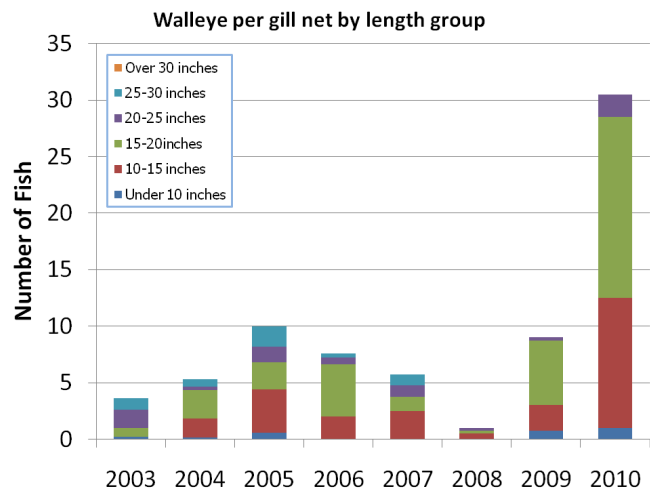


Anglers should also know that blue catfish were initially stocked in Box Butte in 2007 and again in 2008 to add diversity and a potential trophy fishery. It is the anglers responsibility to be able to differentiate species as channel catfish have a bag limit of 5 fish per day while blue catfish are managed as a trophy fish with a statewide bag limit of 1.

## Walleye

Walleye numbers in 2010 were the highest recorded since 2003 with a gill net catch of 30.5 fish per net. This was well above the 2003-2009 average of 6 fish per net. Of those fish that were sampled, 60% were larger than the statewide minimum length limit of 15 inches.

Strong year classes of walleye from 2005-2009 make up the bulk of the population and will provide excellent fishing opportunities over the next couple years. About 3% of the fish sampled were young-of-the-year fish and hopefully they will contribute to the fishery at Box Butte over the next few years. The average size of walleye collected during the survey was approximately 16 inches and the largest fish collected was 22 inches.



Overall, the walleye fishery at Box Butte is excellent and likely that can be attributed at least in part to higher reservoir levels over the past few years. Higher reservoir levels have increased productivity of the reservoir and also the amount of flooded terrestrial vegetation which small walleyes and other species use for cover. Anglers who target walleyes at Box Butte reservoir should see decent numbers of fish larger than 15 inches in their creel, and there is a chance they could catch some walleyes larger than 20 inches.

Anglers are reminded that they are allowed a daily bag limit of 4 walleyes that must be larger than 15 inches. Only one walleye larger than 22 inches may be included in the daily bag.

## Angler Creel Survey

An angler or creel survey will be conducted at Box Butte Reservoir in 2011. This study is being done through an agreement between the Nebraska Game and Parks Commission and the Nebraska Cooperative Fish and Wildlife Research Unit at the University of Nebraska in Lincoln. This survey will be conducted from April 1 through October 31. During this time, anglers will be counted and interviewed on twenty randomly-selected days each month; fourteen week days and six weekend days. Information gathered from this creel survey will allow fisheries managers to look at estimates of angling pressure, size structure of fish caught, catch, harvest, and catch rates hour. This information also will allow managers to further evaluate fishing regulations such as the pike regulations that were discussed earlier.

For additional information about fisheries management at Box Butte Reservoir please contact the following personnel by phone or email addresses listed below.

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